

# METHOD AND APPARATUS FOR ELECTRICAL-OPTICAL PACKAGING WITH CAPACITIVE DC SHUNTS

## ABSTRACT OF THE DISCLOSURE

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An optical-electrical (OE) package includes a substrate electrically coupled to a motherboard via one or more capacitor DC shunts (CDCSs). In one embodiment, the substrate includes an IC chip electrically coupled to a first set of contact-receiving members on an upper surface of the substrate. The substrate also 10 includes a light-emitting package and a photodetector package electrically coupled to respective second and third sets of contact-receiving members on the substrate lower surface. The substrate has internal wiring that electrically interconnects the IC chip, the light-emitting package and the photodetector array. The light-emitting package and the photodetector array are optically coupled to respective first and 15 second waveguide arrays formed in or on the motherboard. The CDCSs mitigate noise generated by the IC chip by serving as a local current source.

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